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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/630,154	07/31/2000	Roland Rupp	GR 98 P 3052	5435

7590 09/11/2002

Lerner and Greenberg PA  
Post Office Box 2480  
Hollywood, FL 33022-2480

EXAMINER

KACKAR, RAM N

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 09/11/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/630,154

Applicant(s)

RUPP ET AL.

Examiner

Ram N Kackar

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 11-14, drawn to a method, classified in class 427, subclass 249.17.
  - II. Claims 1-10, drawn to an apparatus, classified in class 118, subclass 728.
2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus could be used for many different applications including heat treatment, deposition and etching by changing the insert.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Mark Weichselbau on 08/23/02 a provisional election was made with traverse to prosecute the invention of Group II, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-14 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this instance the phrase "thickness decreasing with an increasing distance from the substrate" is not understood.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al (JP 02248393) in view of Holcombe et al (US 5443892). Kobayashi discloses a susceptor for vapor growth device having a plurality of carbon inserts which would be like tiles having depressions for substrates (Fig 1-3). Kobayashi et al do not disclose carbon insert to have a coating of metal carbide. Holcombe et al teaches that at high temperature carbon diffuses from graphite and a coating of carbide forming material like tantalum, niobium, tungsten and molybdenum prevents this diffusion by forming layer of carbide within the metal layer (Col 1 line 11 and Col 4 line 48-64). Therefore it would have been obvious for one having ordinary skill in the art at the time invention was made to apply metal carbide to enable processing at high temperature.

9. Claims 1-4, 7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al (JP 02248393) in view of Yamaga et al (US 5614447). Kobayashi discloses a

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susceptor for vapor growth device having a plurality of carbon inserts which would be like tiles having depressions for substrates (Fig 1-3). Kobayashi et al do not disclose carbon insert to have a coating of metal carbide. Yamaga discloses the use of carbide film as a good absorber for infrared rays (Col 5 line 62 to Col 6 line 3). Therefore, it would have been obvious for one having ordinary skill in the art at the time invention was made to apply metal carbide coating to enable uniform heating due to high absorption of infrared rays and high melting point of metal carbides.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al (JP 02248393) in view of Holcombe et al (US 5443892) as applied to claim 1 and further in view of Drage (US 4793975) and Doi et al (US 4507189). Kobayashi et al do not disclose a removable insert of metal. Drage discloses a removable insert of metal (Abstract) but does not disclose the insert to have a coating of metal carbide. Doi et al teaches that metal carbide coating improves wear resistance, heat resistance and corrosion resistance (Col 1 line 8-20). Therefore it would have been obvious for one having ordinary skill in the art at the time invention was made to apply a metal carbide coating to the metal insert to improve their surface properties and increase usable life.

***Allowable Subject Matter***

11. Claim 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. This allowance is based upon examiners assumption that the claim means that the density of carbide decreases as the distance from the substrate is increased.

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***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US Patents 4767666, 5985024, 5886863 and 4439232.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 703 305 3996. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703 308 1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

RK  
August 31, 2002

  
**GREGORY MILLS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**